

## ABSTRACTION

PT Telekomunikasi Indonesia, Tbk. is the biggest telecommunication company in Indonesia. By the increasing number of TELKOM customers, so it is needed concern the service aspect to the customer. As the direct service to customer, PT TELKOM has its specific place, which is PlasaTELKOM. PlasaTELKOM is a service outlet owned by TELKOM, totally organized by TELKOM and/or joined by TELKOM's business partner. PlasaTELKOM is used to serve customer, targeted customer, and TELKOM service user directly. The kinds of service for examples are information service of TELKOM product or selling the product of PT TELKOM. Because of that, the service facility in PlasaTELKOM should give the comfort to the customer. The services facility includes suitable area for customer, friendly customer, fast and exact service, and short queuing time.

Average queuing time for CSR service in PlasaTELKOM Jalan Pahlawan No.10 Semarang is more than the fixed queuing time issued by PT TELKOM, it's about 10 minutes. In the other side, average utility of CSR in peak time is high and in the other time (out of peak time) is quiet lower than standard utility, that is 77.5%. This might be caused by the service rate or CSR's attendant not in the proper time. For that reason, rescheduling and optimal number of CSR in that PlasaTELKOM is needed to determinate.

The method to make CSR schedule and to determine optimal CSR is by Integer Linear Programming that considering arrival rate, CSR services rate, and standard utility wanted by PT TELKOM. In the determining optimal CSR schedule is used existing shift and shift per hour. After getting optimal solution of the number of CSR by Integer Linear Programming, existing queuing model and recommendation model by the result of Integer Linear Programming with the method of existing shift or shift per hour are simulated. Simulation that's done by ProModel software is to get the best recommendation.

The conclusion of the observation is that by using existing shift will be gotten the number of optimal CSR is 8 persons, and 7 persons for shift per hour method. By the simulation, recommendation model with existing shift or shift per hour can reduce the average queuing time of customers. By 9 persons of CSR, average waiting time in the existing condition is 12.46 minutes and average time of customer in the system is 24.98 minutes. By the recommendation model with existing shift, the average of waiting time is to become 6.53 minutes and the time of customer in system is to become 17.90 minutes. And the recommendation model with shift per hour, the average of waiting time is to become 7.67 minutes, and the time of customer in the system is to become 19.19 minutes. By the difference of 1 CSR has a not significant effect to the queuing time. So, the best solution of the number of optimal CSR is by shift per hour, which is 7 persons.

Key words: Customer Service Representative (CSR), Integer Linear Programming, ProModel, arrival rate, service rate, queue